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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,928	09/21/2000	Jay Kin Keung	10188	6748

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EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

11

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS11

Office Action Summary	Application No.		Applicant(s)	
	09/666,928		KEUNG ET AL.	
	Examiner		Art Unit	
	Hai Vo		1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>11</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____ |

1. Claims 11 and 12 have been cancelled in the amendment received on 11/22/2002.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "a second antiblock agent" is unclear because what is a first antiblock agent? Does Applicant means the methyl acrylate being the first antiblock agent?

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13, 14, 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmann et al (US 5,326,625) in view of Keller et al (US 5,691,043), and Crighton et al (US 6,235,143). Schuhmann discloses a sealable opaque multilayer polypropylene film having a five-layer construction meeting the claim limitations (abstract). Schuhmann discloses the top skin layer comprising polypropylene and SiO₂ (column 7, line 54 and column 9, line 25), the bottom skin layer comprising a terpolymer of ethylene-propylene-butylene (column 7,

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lines 49-50) and SiO₂ (column 9, line 25). Schuhmann discloses the top skin layer comprising 0.1 to 0.5% SiO₂ (column 10, lines 33-37), the intermediate layer comprising 3% TiO₂ (example 3). Schuhmann is silent as to polybutylene terephthalate (PBT) of the core layer and silicone oil and crosslinked silicone of the bottom top layer. Keller teaches the core layer comprising PBT as the cavitating agent (column 7, lines 15-17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated PBT into the core layer motivated by the desire to form microvoids resulting in a white opaque film. Keller discloses a skin layer comprising 2000 to 15000 ppm silicone oil and 100 to 5000 ppm crosslinked silicone (column 8, lines 40-64). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the crosslinked silicone and silicone oil into the bottom top layer motivated by the desire to reduce the coefficient of friction properties of the film.

The combination of Schuhmann and Keller teaches every element of the claims except the methyl acrylate antiblocking agent, concentrations of methyl acrylate. Crighton discloses a heat sealed polymeric film comprising a polymethacrylate antiblock agent in an amount of 500 to 6000 ppm in the skin layer of the film (column 2, lines 32-34 and 44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated a polymethacrylate antiblock agent into the top skin layer motivated by the desire to obtain a film having good sealing with high slip on the heat seal jaws. The

combination of all the cited reference meets all the limitations of structure and chemistry of the claims and thus the resulting film would inherently show an improved tear performance in a hot tack test.

*The examiner suggests that the minimum seal temperature limitations must be included in the claims in order to overcome the finding of obviousness.

With regard to claims 14 and 18, Schuhmann discloses the top skin layer comprising calcium carbonate as an antiblocking agent in an amount of 0.1% to 0.5% wt. (column 10, lines 29 and 37).

With regard to claims 16 and 20, Schuhmann discloses the film having a thickness of 40 microns and thickness of individual layer is as follows:

Core: 32.6 microns

Top Intermediate: 3.5 microns

Top skin layer: 0.2 micron

Top Intermediate: 3.5 microns

Bottom skin layer: 0.2 micron (example 1, and column 12, lines 14-19). However, thickness is a result-effective variable and would have been recognized by one skilled in the art to obtain a multilayer film that is distinguished by a high whiteness, an outstanding opacity, good gloss and excellent sealing properties. Thus, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the film of Schuhmann comprising the individual layers with the thickness instantly claimed since it has been held that where the general conditions of a claim are

disclosed in the prior art, discovering the optimum or workable ranges involved only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmann et al (US 5,326,625) in view of Keller et al (US 5,691,043), and Crighton et al (US 6,235,143) as applied to claim 13, further in view of Shreck (US 5,681,208). The combination of Schuhmann, Keller, and Crighton teaches every element of the claims except the coated silica incorporated into the bottom skin layer. Shreck discloses a polymeric film comprising a coated silica in the skin layer of the film (comparative example 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated a coated silica into the bottom skin layer motivated by the desire to obtain a film having high gloss and low coefficient of friction.
- Since the concentration of the additives is a result-effective variable and would have been recognized by one skilled in the art to obtain a multilayer film that is distinguished by a high whiteness, an outstanding opacity, good gloss and excellent sealing properties. Thus, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the film of Schuhmann as modified by Keller/Crighton/Schreck comprising additives that have the concentration instantly claimed since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involved only routine skill in the art. *In re Aller*, 105 USPQ 233.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmann et al (US 5,326,625) in view of Keller et al (US 5,691,043), Crighton et al (US 6,235,143), and Shreck (US 5,681,208) as applied to claim 17 above, further in view of Falla et al (US 5,674,944). The combination of Schuhmann, Keller, Crighton and Shreck teaches every element in the claims except a phosphite and fluoropolymer as the additives in the core layer. Falla supplies the missing features. Falla discloses the additives including phosphite antioxidant, and fluoropolymer as a processing aid (column 6, lines 28 and 34). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated phosphite and fluoropolymer into the core layer motivated by the desire to obtain an ease of handling and stabilize the product processing.
8. Claims 13, 14, 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al (US 5,691,043) in view of Crighton et al (US 6,235,143). Keller discloses a sealable opaque multilayer polypropylene film having a five-layer construction meeting the claim limitations (column 7, lines 24-32). Keller discloses the core layer comprising polypropylene homopolymer and 4 to 8 wt % PBT as a cavitating agent (column 4, line 48, column 7, lines 17-18). Keller discloses the top skin layer comprising polypropylene and SiO₂ (column 8, line 29), the bottom skin layer comprising a terpolymer of ethylene-propylene-butylene (column 8, line 1) and SiO₂ (column 8, line 29). Keller discloses the tie layers comprising propylene and at least one of the tie layers containing 4 to 15

wt % TiO₂ (column 7, lines 25-27). Keller is silent as to methyl acrylate as an antiblocking agent. Crighton discloses a heat sealed polymeric film comprising a polymethacrylate antiblock agent in an amount of 500 to 6000 ppm in the skin layer of the film (column 2, lines 32-34 and 44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated a polymethacrylate antiblock agent into the top skin layer motivated by the desire to obtain a film having good sealing with high slip on the heat seal jaws. The combination of all the cited reference meets all the limitations of structure and chemistry of the claims and thus the resulting film would inherently show an improved tear performance in a hot tack test.

With regard to claim 14, Keller discloses the core layer comprising polypropylene homopolymer and 4 to 8 wt % PBT as a cavitating agent (column 4, line 48, column 7, lines 17-18). Keller discloses a skin layer comprising 2000 to 15000 ppm silicone oil and 100 to 5000 ppm crosslinked silicone (column 8, lines 40-64). Keller discloses the tie layers comprising 4 to 15 wt % TiO₂ (column 7, lines 25-27). Since the concentration of the additives is a result-effective variable and would have been recognized by one skilled in the art to obtain a multilayer film that is distinguished by a high whiteness, an outstanding opacity, good gloss and excellent sealing properties. Thus, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the film comprising additives that have the concentration instantly claimed since it has been held that where the general conditions of a

claim are disclosed in the prior art, discovering the optimum or workable ranges involved only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claims 16 and 20, Keller discloses a multiplayer film comprising each skin layer adjacent to the core layer having a thickness from 0.5 to 3 microns (column 8, lines 22-25). Keller discloses a multiplayer film having a thickness ranging from 10 to 60 microns (column 9, lines 37-40). Since the thickness is a result-effective variable and would have been recognized by one skilled in the art to reduce the cost of the production while maintaining a multilayer film that is distinguished by a high whiteness, an outstanding opacity, good gloss and excellent sealing properties. Thus, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the film comprising individual layers that have the thickness instantly claimed since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involved only routine skill in the art. *In re Aller*, 105 USPQ 233.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al (US 5,691,043) in view of Crighton et al (US 6,235,143) as applied to claim 13, further in view of Shreck (US 5,681,208). The combination of the primary and secondary references fails to teach or suggest a coated silica in the skin layer of the film. Shreck discloses a polymeric film comprising a coated silica in the skin layer of the film (comparative example 2). It would have been obvious to one

having ordinary skill in the art at the time the invention was made to have incorporated a coated silica into the bottom skin layer motivated by the desire to obtain a film having high gloss and low coefficient of friction.

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al (US 5,691,043) in view of Crighton et al (US 6,235,143), Shreck (US 5,681,208), as applied to claim 17, further in view of Falla et al (US 5,674,944). The combination of Keller, Crighton and Shreck teaches every element in the claims except a phosphite and fluoropolymer as the additives in the core layer. Falla supplies the missing features. Falla discloses the additives including phosphite antioxidant, and fluoropolymer as a processing aid (column 6, lines 28 and 34). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated phosphite and fluoropolymer into the core layer motivated by the desire to obtain an ease of handling and stabilize the product processing.

Response to Arguments

11. The art rejections in paper no. 7 have been maintained for the following reasons. The declaration is not commensurate in scope with the claims. The minimum seal temperature limitations need to be included in the claimed subject matter in order to overcome the finding of obviousness. Further, Applicants need to provide evidence or declaration to demonstrate that the high stereo-regularity of a cavitated core layer of the present invention makes it patentable over the prior art such as high degree of the crystallinity of the core layer which is opposite to

the teaching of Keller, i.e., a core layer containing a modifier to reduce the crystallinity of the polypropylene (abstract).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Tue-Fri, 8:30-6:00 and on alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone

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numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV
February 19, 2003



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700